

1 Attorney Docket No. 83723

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3           BUOYANT DEVICE FOR BI-DIRECTIONAL ACOUSTO-OPTIC  
4           SIGNAL TRANSFER ACROSS THE AIR-WATER INTERFACE

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6           ABSTRACT OF THE DISCLOSURE

7       A buoy system bi-directionally communicates in-air and  
8       underwater. A buoy having a shell to float on water has an upper  
9       portion in air and a lower portion in water. An array of acoustic  
10      transducers which is disposed in the lower portion receives  
11      acoustic signals and transmits acoustic signals. A dome-shaped  
12      retro-reflective coating on the upper portion is vibrated for  
13      retro-reflecting impinging laser illumination as data signals in  
14      air. An array of photo-detectors on the upper portion are  
15      responsive to impinging laser control signals and/or signals  
16      which may be transmitted as acoustic signals in water.